REMARKS

Reconsideration and withdrawal of the rejections set forth in the Office Action dated September 10, 2004 are respectfully requested. Claims 1-24 are currently pending this application. Claims 20-24 are new.

Objections

The Examiner objected to the drawings because of minor informalities.

The Examiner objected to the specification because of minor informalities. Specifically, the Examiner indicated that a Brief Summary of the Invention section was omitted and pointed out two typographical errors.

The Examiner objected to claims 2, 6, and 9 because of minor informalities. Specifically, the Examiner indicated that the terms empty and unknown should be enclosed in quotes at line 18 of claim 2 and line 3 of claim 6 and that the term stack should be enclosed in quotes at lines 31 and 34 of claim 2 and lines 5 and 7 of claim 9.

Correction of Informalities

The applicants have submitted corrected drawing sheets, attached herewith. The applicants have identified additional potential informalities in the drawings and corrected them as well. The attached drawings are formal. The applicants respectfully request that the Examiner withdraw the objections to the drawings.

The applicants have added a Summary and corrected the typographical errors identified by the Examiner. The applicants have made changes to the specification to correspond to the drawings, as amended, and to improve clarity. The applicants respectfully request that the Examiner withdraw the objection to the specification.

The applicants have amended claims 2, 6, and 9 to correct the minor informalities identified by the Examiner. The applicants respectfully request that the Examiner withdraw the objections to claims 2, 6, and 9.

Amendments to the Drawings

The attached sheets of drawings include changes to FIGS. 1A, 1B, 2A, 2B, and 3. These sheets replace all of the original sheets. In FIGS. 1A and 1B, an arrowhead is drawn to connect the line between blocks 102, 152 and 104, 154, respectively, and the connecting line between the output of block 104, 154 and the input block 102, 152, respectively has been deleted.

In FIGS. 2A and 2B, in block 206 the terms "empty" and "unknown" are enclosed in quotation marks; block 206 has been split into blocks 205 and 206 (no new matter added); an unlabeled block after 206 has been labeled 207; in decision block 208 a question mark and an arrow to block 212 have been added; at decision blocks 208, 210, 218, 222, 226, and 230 "Y" and "N" legends have been added; decision block 234 has been deleted and block 232 has been split into blocks 232 and 234; the two sheets have been labeled FIG. 2A and FIG. 2B, respectively; off-page references A, B, C, and D have been added to logically connect FIG. 2A to FIG. 2B; blocks 238 have been separately labeled as decision blocks 238, 240, and 242 and "Y" and "N" legends have been added; outputs of blocks 220, 224, 228, 234, and 236 are added to point to decision block 238; an indication that the flowchart ends after decision block 242 has been added; an output of decision block 238 is to (inadvertently omitted, but obvious from the context) block 244; labels 246 and 248 have been added to output boxes from decision blocks 240 and 242, respectively; and "Figure 2" has been deleted from the sheet now labeled "FIG. 2A".

In FIG. 3, the label "Figure 3" has been replaced with "FIG. 3" and the label "Required Data Structures" has been deleted.

Attachments: Replacement Sheets
Annotated Sheets Showing Changes

Allowable Subject Matter

The Examiner indicated claim 1 would be allowable if rewritten to point out and distinctly claim the invention by including the language: "creating optimized machine code from bytecode in a single sequential pass in which information from preceding instruction translations is used to perform the same optimizing process of an optimizing compiler without the extensive memory and time requirements." Claim 1 has been amended to include the language: "a second code segment that creates optimized machine code from said bytecode in a single sequential pass in which information from preceding instruction translations is used to perform the same optimizing process of an optimizing compiler without the extensive memory and time requirements." Accordingly, claim 1 is believed to be allowable. The applicants thank the Examiner for the suggestion.

The Examiner indicated claim 2 would be allowable if rewriting to correct minor informalities. The applicants have amended claim 2 as suggested by the Examiner. Accordingly, claim 2 is believed to be allowable. The applicants thank the Examiner for the suggestion.

The Examiner indicated claim 3 would be allowable if rewritten similarly to claim 1. However, the applicants believe claim 3 is allowable without so amending, for reasons described below. The Examiner indicated claims 9-19 would be allowable if rewritten in independent form including all of the limitations of the base claim and intervening claims. However, the applicants believe claims 9-19 are allowable for depending from claim 3.

Rejections

The Examiner rejected claim 3 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claims 4-19, which depend from claim 3, were rejected for the same reason. The Examiner further rejected claims 2-19 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner provisionally rejected claims 1-19 under the doctrine of obviousness-type double patenting as being unpatentable over claims 1-29 of co-pending Application No. 10/016,794 (hereinafter, the '794 application).

The Examiner rejected claims 1 and 3-8 under 35 U.S.C. 102(a) as being unpatentable over the admitted prior art of FIGS. 1A and 1B and of pages 1-6 of applicant's background.

The 112 Rejections

Written Description

The Examiner asserted that the language "using information from preceding instructions to mimic an optimizing compiler" is not sufficiently described and that the language "to mimic an optimizing compiler" is unclear.

Claim 3 has been amended to remove the language. Accordingly, the applicants respectfully request that the 112 rejections of claims 3-19 for failing to comply with the written description requirement be withdrawn.

In order to clarify the offending language "using information from preceding instructions to mimic an optimizing compiler" and "to mimic an optimizing compiler," the applicants have amended the specification at paragraph 28 to include the text:

> As used herein, the phrase "mimic an optimizing compiler" refers to the utilization of information from the translation of preceding bytecodes to compile a sequence of bytecodes into machine code in a sequential pass, an example of which is described above with reference to FIGS. 2A and 2B. As used herein, the language "using information from preceding instructions" refers to using information that is stored in stacks as described, for example, with reference to FIGS. 2A and 2B, when processing a current bytecode. Data structures appropriate for utilization in this regard are conceptually depicted, for example, in FIG. 3.

Since the definitions of the language refer only to matter described in the original application, the definition is sufficient to reasonably convey to one skilled in the relevant art that the inventor had possession of the claimed invention. Moreover, the definitions include the examples of FIGS. 2A, 2B, and 3.

The applicants reserve the right to reintroduce the language in the new claims because the language is believed to be sufficiently descriptive, at least because of the amendment of paragraph 28 of the specification.

Antecedent Basis

The applicants have amended claims 2-19 as required by the Examiner. Accordingly, the applicants respectfully request that the 112 rejections of claims 2-19 for lack of antecedent basis be withdrawn.

Indefiniteness

The applicants have amended claims 2, 3, and 8 as required by the Examiner. Accordingly, the applicants respectfully request that the 112 rejections of claims 2, 3, and 8 for indefiniteness be withdrawn.

The Provisional Rejections

The applicants have filed a terminal disclaimer in order to expedite prosecution of this patent. Accordingly, the applicants respectfully request that the double patenting provisional rejection be withdrawn.

The Admitted Prior Art

The applicants disclosed a method of compiling bytecode and certain attempts to improve speed. The attempts to improve speed to do not include using preceding translation information to optimize native machine code. The attempts to improve speed do not include producing optimized native machine code in a single pass through

a sequence of bytecodes, either. Rather, attempts to improve speed have included compilation during idle times and pre-verification.

The Prior Art Distinguished

Claim 1

The applicants have amended claim 1 as suggested by the Examiner. The applicants respectfully request the 102 rejection of claim 1 be withdrawn.

Claim 2

The applicants have amended claim 2 as suggested by the Examiner. The applicants respectfully request the 102 rejection of claim 2 be withdrawn.

Claim 3

The admitted prior art does not include using preceding translation information to optimize native machine code. This is found in the language of claim 3, which recites: "using preceding translation information to optimize said native machine code." Since the admitted prior art does not teach each and every element of claim 3, claim 3 is believed to be in a condition for allowance. Claims 4-20, which depend from claim 3, are believed to be allowable at least for depending from an allowable base claim. The applicants respectfully request the 102 rejection of claims 3-19 be withdrawn.

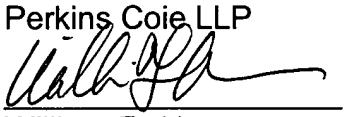
Claim 21

The admitted prior art does not include producing optimized native machine code in a single pass through a sequence of bytecodes. Accordingly, new claim 21 is believed to be allowable over the admitted prior art. Claims 22-24, which depend from claim 21, are believed to be allowable at least for depending from an allowable base claim.

Claims 1-24 remain pending in this application and are believed to be in condition for allowance and a Notice of Allowance is earnestly solicited. Should the Examiner find

that a telephone or in-person conference would expedite the prosecution of this Application further, he is invited to contact the Applicants' counsel at the contact listed below for such a conference.

Respectfully submitted,
Perkins Coie LLP



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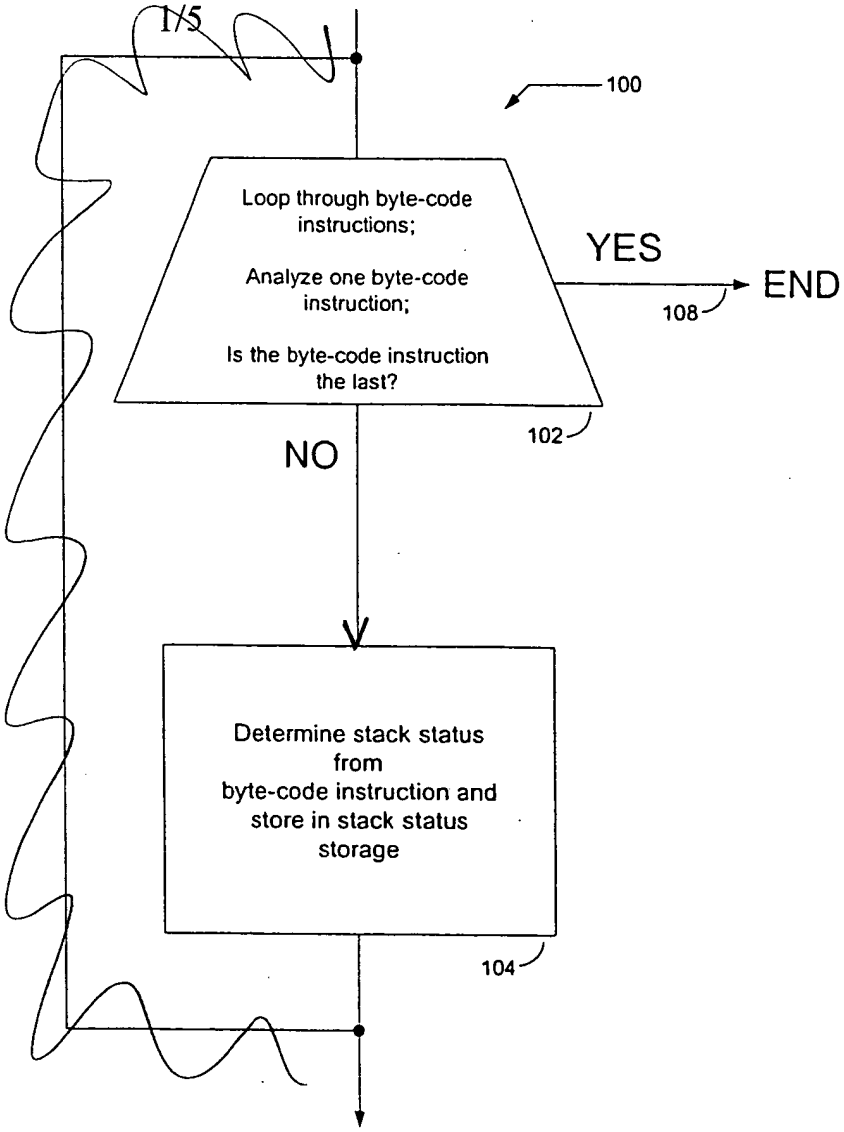
OIPE
DEC 13 2004
JC32
PATENT & TRADEMARK OFFICE

Title: METHOD FOR FAST COMPILATION OF PREVERIFIED JAVA TM BYTE CODE TO HIGH QUALITY NATIVE MACHINE CODE
Inventor: Beat Heeb; Docket No.: 59296-8002.US01
Perkins Coie LLP (650) 838-4300

ANNOTATED SHEET



~~Traditional Byte-Code Compilation~~
~~Pass 1~~

~~FIGURE 1A~~

FIG. 1A
PRIOR ART

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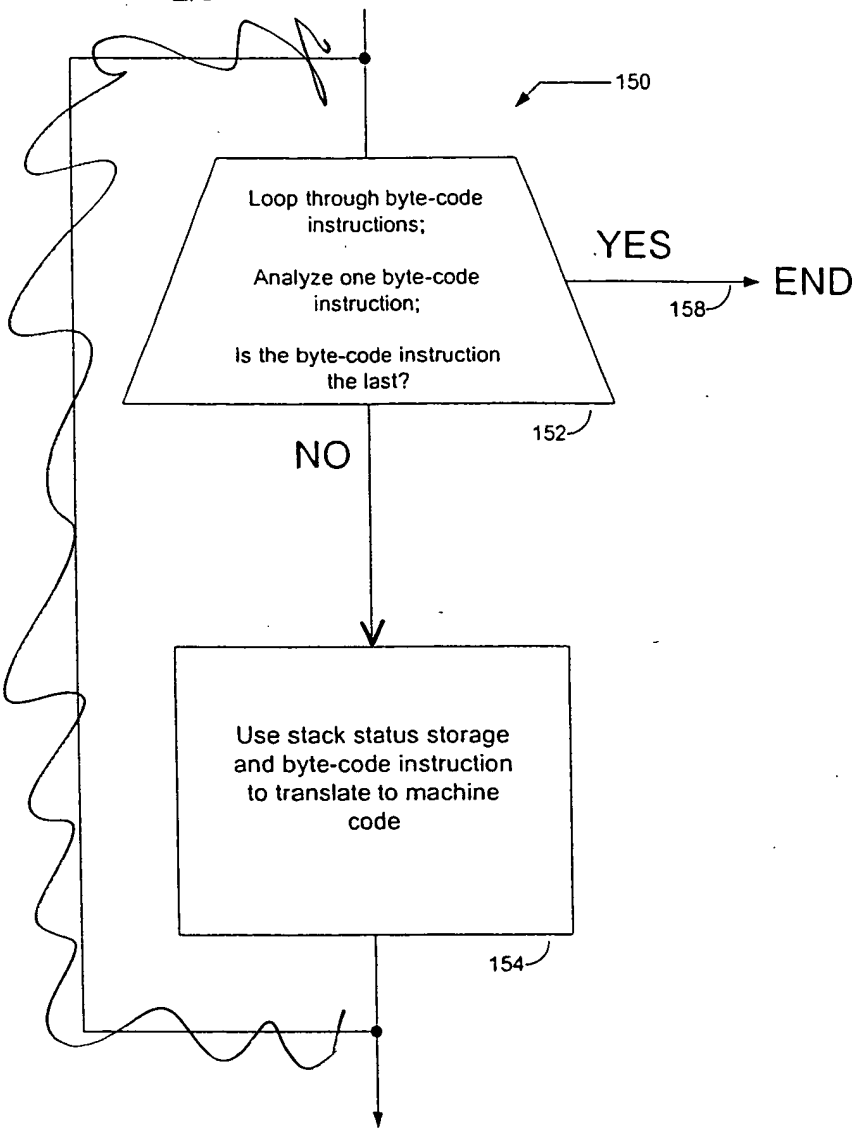
ANNOTATED SHEET



~~Traditional Byte-Code Compilation Pass 2~~

~~FIGURE 1B~~

FIG. 1B
PRIOR ART

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ANNOTATED SHEET

~~FIGURE 2~~

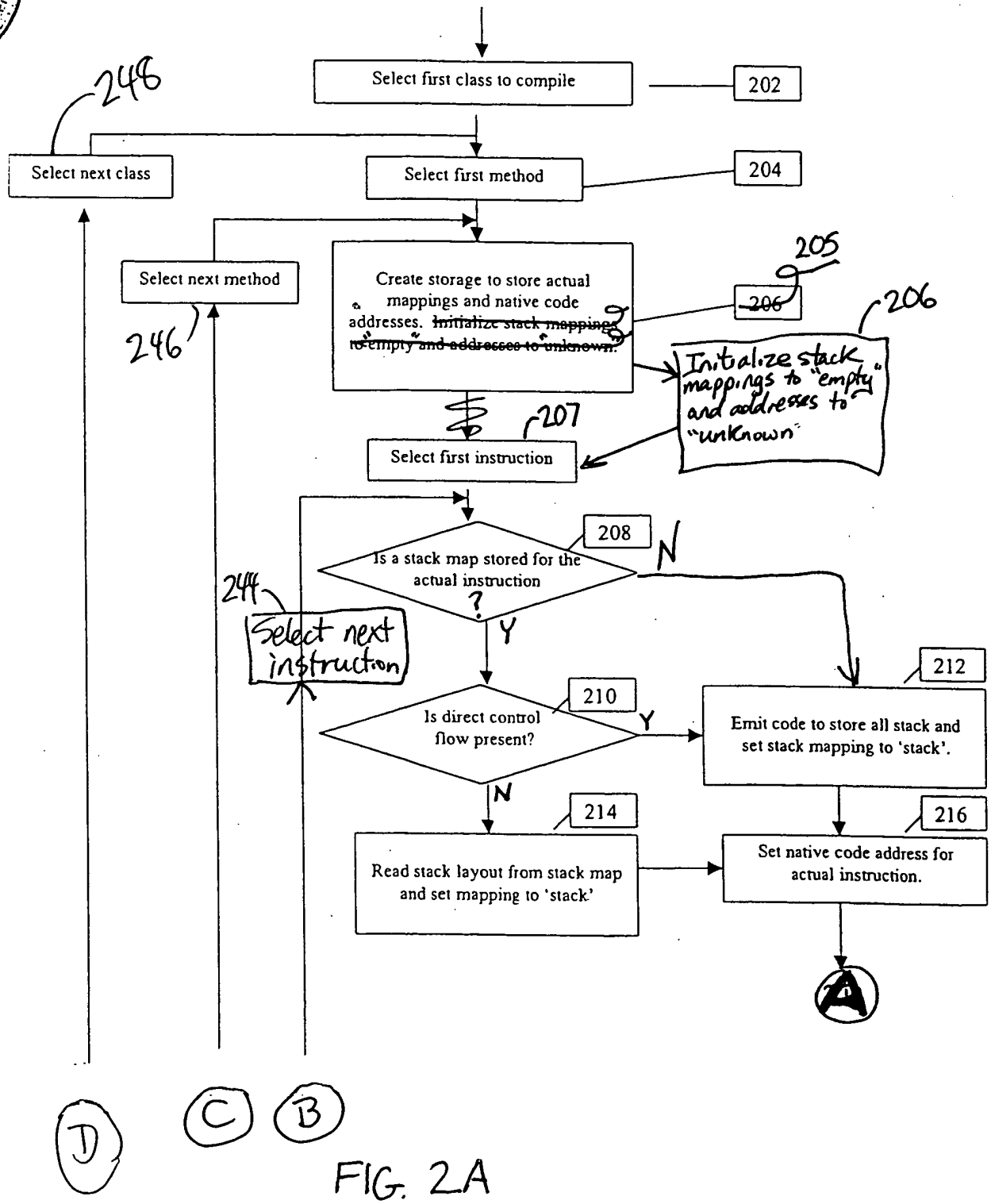

FIG. 2A

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Inventor: Beat Heeb; Docket No.: 59296-8002.US01
Perkins Coie LLP (650) 838-4300

ANNOTATED SHEET

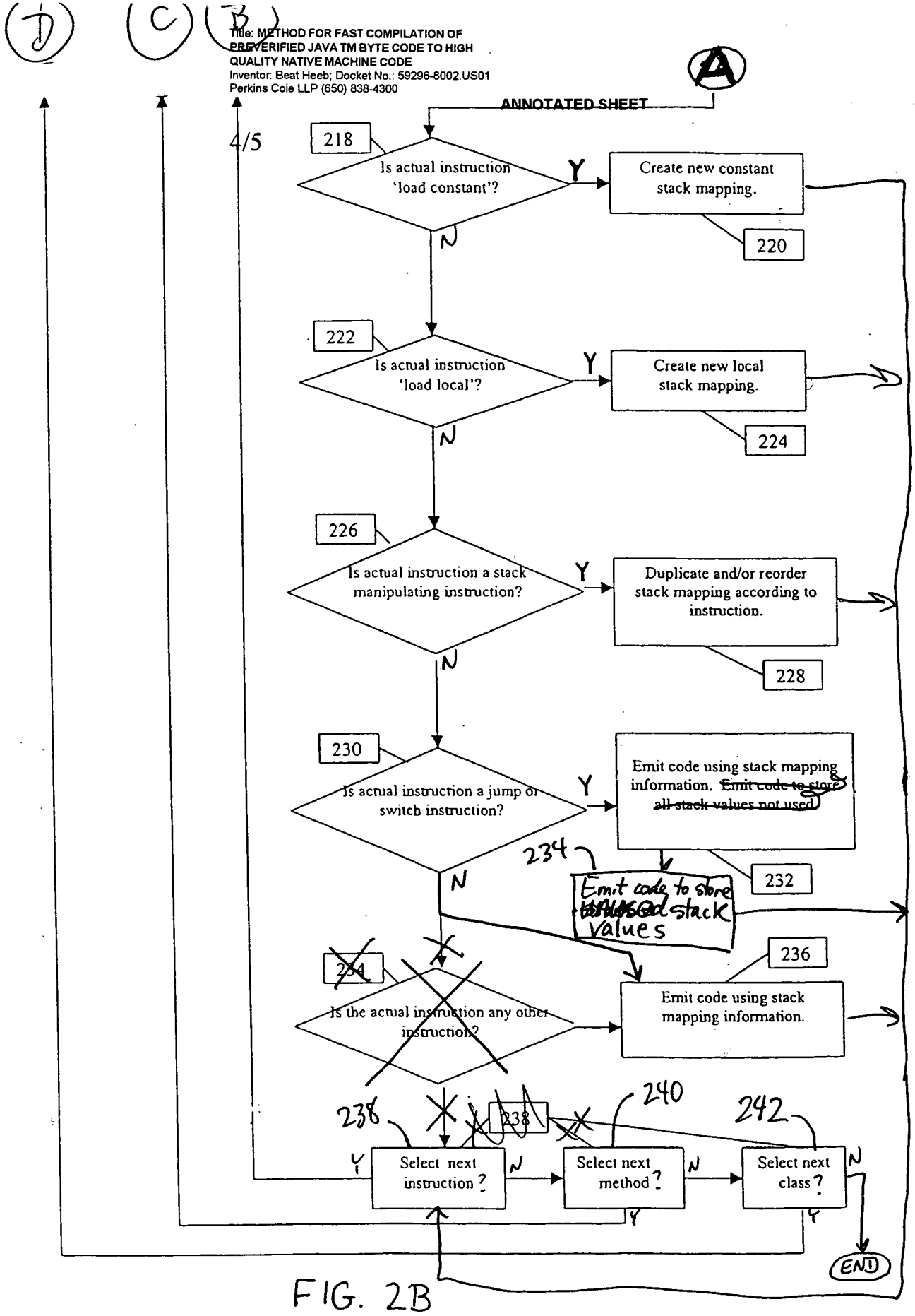

FIG. 2B

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ANNOTATED SHEET

Arrays of Fixed Size 5/5

For each value on the bytecode stack	A field showing actual mapping to storage in target machine	constant
		local
		temporary
		stack
	A field containing additional information	constant value
		slot number
		register number
For each target of a jump or switch instruction	A field to store native code address	

~~Required Data Structures~~

~~FIGURE 3~~

FIG. 3